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*September 17, 1985

L. W. Long

Chemical Release Inventories

As requested in your letter of August 28, 1985, the following describes the status of our efforts to obtain toxic chemical release inventories for five major chemicals utilized at the ORGDP. These chemicals are PCBs, HF, Trichloroethane, Chromium, and Mercury. A preliminary study revealed that reliable information is unavailable for the years prior to 1979 for development of a mass balance. A meeting with Joe Sherrod, Purchasing; and Glenn Brooks, Shipping and Receiving; revealed that routine procurement item files are not retained by either the Purchasing Department or the Shipping and Receiving Department for more than six years. The six-year retention period is designated by DOE Chapter Manual 1324.2, Attachment IV-1, and is repeated in Martin Marietta Energy Systems Accounting Manual Procedure No. 18.11, Listing 4.1. For purchases under \$10,000 the retention period is only three years. Thus, to develop a mass balance on the five chemicals beginning in 1945 seems impossible. Information obtained during the preliminary study that is specific to each chemical follows:

1. PCBs — Al Whittaker talked to Clyde Matthews and reviewed Power Operations Records, Power Maintenance Records, and spent two hours in Plant Records scanning files for additional information. The only information of substance regarding PCB inventories is Document K/HS-73, entitled PCB Inventory 1978-1984. This document published by the Environmental Management Department, on May 21, 1985, indicates the PCB inventories on hand in each of the calendar years beginning in 1978 and ending in 1984. Except for some land farming of oils containing PCBs, to our knowledge no PCBs were shipped to other sites or disposed of before the 1978 report; however, there are no records to verify this information. No records exist determining the total quantities of PCBs that were received at the ORGDP since 1945.
2. HF — To attempt a material balance on this chemical would be very complicated. This chemical was received for use in the Fluorine Production Process, for development activities, for packaging and shipment to other sites, and for other uses. An extensive search through logbooks in Plant Records might reveal a portion of the mass balance through old production logbooks; however, a reliable and a complete mass balance seems impossible.
3. Trichloroethane — Joe Sherrod indicated that a fairly extensive manpower effort might be required to search Purchasing Records; however, six years of receiving information might be obtained on this chemical. A mass balance might then be developed by documenting certain assumptions for the last six years.

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Quinn B. Quinn *FB* 2/18/93
K-25 Classification & Information Control Officer Date

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4. Chromium — Work is continuing by Joe Haymore to "scope out" the situation regarding chromium. In recent years this chemical was received at the ORGDP under the trade name OROCOL or Betz 10K. This chemical can enter the environment through the K-901-A Pond Sludge, the Cooling Tower Basin Sludge, Cooling Tower Drift, or through leaks in the RCW System. Some estimates might be made regarding the quantities of chromium entering the environment if certain assumptions are made; however, the data may not be reliable.
5. Mercury — On June 10, 1983, Mike Mitchell transmitted some information to Tom Scott at DOE for a press release regarding the mercury balance at the ORGDP. Mike Mitchell developed the information by using sampling data at effluent points and flow measuring information at the same locations. He calculated that 265 lb of mercury was discharged from all liquid effluent locations from 1971 through 1982. by assuming similar activities and similar release rates for the period from 1948 to 1971, Mike calculated that an additional 600 lb entered surface streams past effluent points during this period. Mike also estimated that approximately 600 lb of mercury was released because of mercury bottle washings at the ORGDP. He added the three numbers and stated that a total of approximately 1,465 lb of mercury was released from the ORGDP from 1948 through 1982.

Only minimal information is available to allow reporting of chemical emissions from the ORGDP. If we must report past information, I suggest looking at laboratory sampling data from the air emission points and the water NPDES locations, along with flow measurements at these locations, and calculate as Mike Mitchell did for mercury, chemical releases to the environment. I do not think this data would be accurate if extended beyond the years for which laboratory sampling data were available. A review of all shift superintendent daily logbooks would be one method of compiling past recorded release information. Quantities may not be recorded, but the incident dates could be defined. We believe these logbooks are available from Plant Records. I estimate that one or two work-years may be required to review 40 years of logbooks and to compile the information. In addition to logbook reviews, waste disposal records could be utilized to supplement the compiled information. In conclusion, considerable manpower will be required to accurately report this information for more than approximately three years. I suggest that we reevaluate the need for such a report. Please let me know your thoughts.

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JGR:shh

cc: M. L. Ambrose
W. R. Golliher
File — JGR

*For classification purposes, draft letter was retyped on February 17, 1993, (a few words were removed from the original draft letter dated September 17, 1985). Any questions should be directed to J. G. Rogers or A. S. Quist.